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Translation

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PATENT COOPERATION TREATY

PCT

PCT Application
PCT/JP2003/003976



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference WN-2544(P)	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP03/03976	International filing date (day/month/year) 28 March 2003 (28.03.03)	Priority date (day/month/year) 29 March 2002 (29.03.02)
International Patent Classification (IPC) or national classification and IPC G06T 1/00, 7/00		
Applicant NEC CORPORATION		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>2</u> sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>

Date of submission of the demand 26 May 2003 (26.05.03)	Date of completion of this report 06 October 2003 (06.10.2003)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

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I. Basis of the report

1. With regard to the elements of the international application:*

- ☐ the international application as originally filed
- ☒ the description:
pages 1-2, 4-10, as originally filed
pages _____, filed with the demand
pages 3, 11, filed with the letter of 01 September 2003 (01.09.2003)
- ☒ the claims:
pages 1-18, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☒ the drawings:
pages 1, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims	2-7, 10-15	YES
	Claims	1, 8, 9, 16-18	NO
Inventive step (IS)	Claims		YES
	Claims	1-18	NO
Industrial applicability (IA)	Claims	1-18	YES
	Claims		NO

2. Citations and explanations

Documents cited in the international search report:

Document 1: JP 05-020442 A

Document 2: JP 2001-307096 A

Document 3: JP 2001-338293 A

The invention set forth in claims 1, 9, 17 and 18 lacks novelty and does not involve an inventive step in the light of documents 2 or 3 cited in the international search report.

Documents 2 and 3 indicate that a small area (window) is selected from an inputted face image, that said area is projected on to a "pre-registered window partial space" in an object model database, and that window vectors are extracted as information to identify a face (see document 2 (paragraphs [0042] and [0043] and document 3 (paragraphs [0008] to [0011]), etc.).

The "local area", "partial space" and "feature vector" disclosed in this application correspond to the "small area", "partial space" and "window vector" described in documents 2 and 3. Moreover, in the same way as the "feature vector" of this application is used as "face meta-data" which is information for identifying faces, the "window vector" set forth in documents 2 and 3 is also used to identify faces. It would therefore be easy

for a person skilled in the art to project the small area onto the partial space to generate face meta-data in the invention set forth in documents 2 and 3.

The invention set forth in claims 2 and 10 does not involve an inventive step in the light of documents 1 and 2 or documents 1 and 3.

As described in document 1, it is a known feature to project discrete Fourier transformation values onto a specific space.

The invention set forth in claims 3, 4, 11 and 12 does not involve an inventive step in the light of documents 1 and 2 or document 3.

(Discrete Fourier transformation and discrete cosine transformation are methods which are commonly used as frequency transformation, and the use of discrete cosine transformation as an alternative to discrete Fourier transformation does not involve an inventive step. Moreover, discrete sine transformation is effectively equivalent to discrete cosine transformation, and it is merely a design feature to employ discrete sine transformation.

The invention set forth in claims 5 to 7 and 13 to 15 does not involve an inventive step in the light of documents 1 and 2 or documents 1 and 3.

Document 1 indicates that a normalization pattern is determined by principal component analysis.

In addition, independent component analysis and discriminant analysis are known techniques, and adopting these techniques as alternatives to principal component analysis is merely a design feature.

The invention set forth in claims 8 and 16 lacks

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novelty and does not involve an inventive step in the light of documents 2 or 3.

As described in documents 2 and 3 (see document 2 (paragraph [0015] and document 3 (paragraph [0008], etc.), determining the position of a predetermined pattern, then cutting out that area, such as determining the position of a face pattern and then cutting out the face image, is common practice in image recognition, and providing such a feature does not involve an inventive step.